

CORRECTION

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# Correction to: The optimal balance between sexual and asexual reproduction in variable environments: a systematic review

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## Correction

After publication of the original article (Yang and Kim 2016), it was brought to our attention that the phrase ‘Most of the clonal plants mainly rely on clonal propagation and exhibit lower rate of sexual reproduction (Eckert 2002)’ in “Background” section should be deleted.

The phrase ‘Some plant species can produce combinations of chasmogamous flowers (sexual reproduction) and cleistogamous flowers (asexual reproduction) (Ronsheim and Bever 2000)’ in “Background” section should read ‘Some plant species can produce combinations of chasmogamous flowers and cleistogamous flowers (Ronsheim and Bever 2000)’.

The phrase ‘Benefits and costs of sexual reproduction. Sexual reproduction allows parents to promote genetically diverse offspring through recombination, mutation, and gene flow from immigrants (Morain 1984)’ in “Benefits and costs of sexual reproduction” section should read ‘Benefits and costs of chasmogamous reproduction. Chasmogamous reproduction allows parents to promote genetically diverse offspring through recombination, mutation, and gene flow from immigrants (Morain 1984)’.

The phrase ‘Other explanations of this phenomenon are decrease in the cost of sexual reproduction (Bai et al. 2009; Loehle 1987) and the effects of nutrient availability on plant growth (Corff 1993; Cheplick 1994) with subsequent increase in chasmogamous seed output’ in “A general trend on

selection of reproductive modes in relation to soil nutrients level in plants with chasmogamy and cleistogamy” section should read ‘Other explanations of this phenomenon are decrease in the cost of chasmogamous reproduction (Bai et al. 2009; Loehle 1987) and the effects of nutrient availability on plant growth (Corff 1993; Cheplick 1994) with subsequent increase in chasmogamous seed output’.

The phrase ‘Also, low soil water content as environmental stressors, have been reported to increase sexual reproduction in *C. esculentus* (Li et al. 2001b) and *Sinapis arvensis* (Mal and Lovett-Doust 2005)’ in “A general trend on selection of reproductive modes in relation to soil water level in perennial” section should read ‘Also, low soil water content as environmental stressors, have been reported to increase sexual reproduction in *C. esculentus* (Li et al. 2001b) and *Lythrum salicaria* (Mal and Lovett-Doust 2005)’.

The phrase ‘The allocation to sexual reproduction was higher under high light levels in *C. micans* (Corff 1993)’ in “A general trend on selection of reproductive modes in relation to light intensity in plants with chasmogamy and cleistogamy” section should read ‘The allocation to chasmogamous reproduction was higher under high light levels in *C. micans* (Corff 1993)’.

The phrase ‘As can be seen in the Tables 1, 2, and 3, most of the sexual propagules production and plant size were positively correlated (8 of 9 species), but the majority of cleistogamous propagules production was not correlated with plant size (3 of 4 species)’ in “Allometric relationships and allocation of propagules” section should read ‘As can be seen in the Tables 1, 2, and 3, most of the sexual propagules production and plant size were positively correlated (16 of 17 species), but the majority of cleistogamous propagules

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production was not correlated with plant size (6 of 8 species)'.

The phrase 'When controlling for the effect of size in *C. grandiflora* (Wilken 1982), *M. vimineum* (Cheplick 2005), *E. spinose* (Sadeh et al. 2009), and *P. sedoides* (Nicholls 2011) (see Table 1, 2 and 3), true plasticity of investments in sexual reproduction or asexual propagation was still evident' in "Allometric relationships and allocation of propagules" section should read 'When controlling for the effect of size in *I. capensis* (Waller 1980), *C. grandiflora* (Wilken 1982), *M. vimineum* (Cheplick 2005), *E. spinose* (Sadeh et al. 2009), and *P. sedoides* (Nicholls 2011) (see Table 1, 2 and 3), true plasticity of investments in sexual reproduction or asexual propagation was still evident'.

The phrase 'Conversely, annual and perennial plants with chasmogamy and cleistogamy tend to have more sexual reproduction in rich soil' in "Relationship between favored reproduction modes and realized niche" section should read 'Conversely, annual and perennial plants with chasmogamy and cleistogamy tend to have more chasmogamous reproduction in rich soil'.

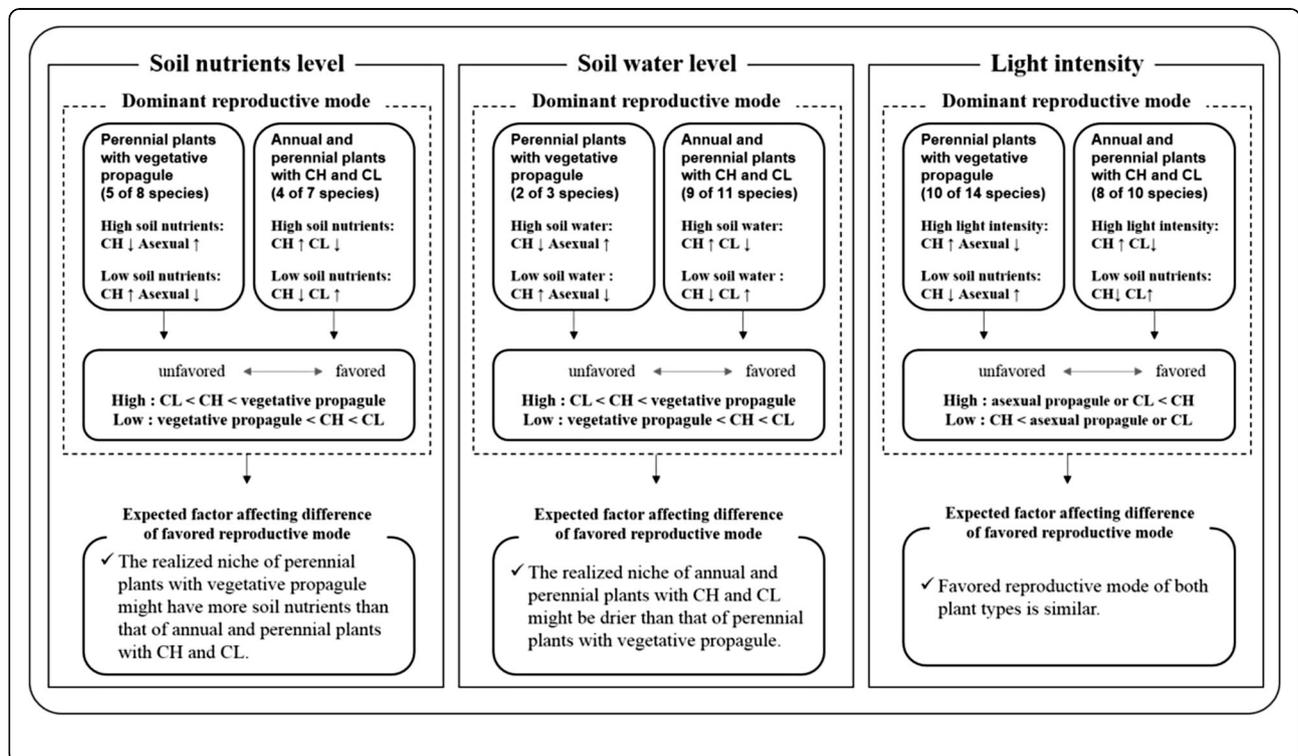
The phrase 'However, annual and perennial plants with chasmogamy and cleistogamy tend to have more asexual reproduction in drier soil' in "Relationship between favored reproduction modes and realized niche" section should read 'However, annual and perennial plants with chasmogamy and cleistogamy tend to have more cleistogamy reproduction in drier soil'.

The phrase 'Both perennial and annual plants exhibit more sexual reproduction in high light condition and more asexual reproduction in low light condition' in "Relationship between favored reproduction modes and realized niche" section should read 'Both perennial and annual plants exhibit more chasmogamous reproduction in high light condition and more asexual or cleistogamous reproduction in low light condition'.

Reference 'Eckert, C. G. (2002). The loss of sex in clonal plants. *Evolutionary Ecology*, 15, 501–520' should be deleted.

Column title 'Sexual propagules' and 'Asexual propagules' in "Table 1, 2, and 3" should read 'Chasmogamous reproduction' and 'Asexual or cleistogamous reproduction', respectively.

Figure 1 should be changed as below.



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